

Rehabilitate Salt River Contact Station

Salt River Bay National Historic Park & Ecological
Preserve

for

United States Virgin Islands
Department Of Planning And Natural Resources
Minor Land Development Application

February 3, 2021

Prepared for:

National Park Service
Salt River Bay National Historic Park & Ecological
Preserve

Prepared by:

Stantec Consulting Services Inc.

Table of Contents

1.0	NAME AND ADDRESS OF APPLICANT/PROFESSIONAL AFFILIATES	1.1
2.0	LOCATION OF PROJECT	2.3
3.0	ABSTRACT	3.7
4.0	OBJECTIVES OF THE PROPOSED PROJECT	4.9
5.0	DESCRIPTION OF PROJECT	5.9
5.1	SUMMARY OF PROPOSED ACTIVITY	5.11
5.1.1	Purpose of Project.....	5.11
5.1.2	Presence and Location of Critical Areas	5.11
5.1.3	Method of Construction	5.12
5.1.4	Provisions to Limit Site Disturbance.....	5.12
5.1.5	Erosion and Sediment Control Devices	5.12
5.1.6	Schedule for Earth Change and Implementation of Erosion and Sediment Control Measures.....	5.13
5.1.7	Maintenance of Erosion and Sediment Control Measures.....	5.13
5.1.8	Stormwater Management.....	5.14
5.1.9	Maintenance of Stormwater Management	5.15
5.1.10	Method of Wastewater Collection and Disposal.....	5.15
5.2	SITE PLANS	5.16

LIST OF FIGURES

Figure 1 - United States Virgin Islands Location Map	2.3
Figure 2 - St. Croix Location Map.....	2.4
Figure 3 – Salt River Bay Vicinity Map	2.4
Figure 4 – Salt River Bay Visitor Contact Station Aerial.....	2.5
Figure 5 – NPS Salt River Bay Master Plan By Others (2013)	2.6
Figure 6 – DPNR CZM Tier 1 Zone	2.7
Figure 6 – Salt River Bay Contact Station	3.8
Figure 8 – Quad Map	5.16
Figure 9 – FEMA Map	5.17
Figure 10 – Soil Survey Map	5.17

LIST OF APPENDICES

APPENDIX A	GEOTECHNICAL REPORT.....	A.1
APPENDIX B	COMPREHENSIVE STORMWATER PREVENTION AND POLLUTION PLAN (C-SWPPP)	B.2
APPENDIX C	APPROVALS	C.3
APPENDIX D	OTHER REQUIRED FORMS.....	D.4
APPENDIX E	SEWER REPORT	E.5

1.0 NAME AND ADDRESS OF APPLICANT/PROFESSIONAL AFFILIATES

Applicant

(see Appendix D - Agent Authorization Form)

Civil Engineer

Shaun Cavey, PE
Stantec Consulting Services Inc.
4969 Centre Pointe Drive, Suite 200
North Charleston, SC 29418
shaun.cavey@stantec.com
843-740-7700

Owner / Developer

National Park Service

Reggie Tiller
Acting Superintendent
National Park Service
Salt River Bay NHP & EP
2100 Church Street No. 100
Christiansted, St. Croix
US Virgin Islands, 00820
reggie_tiller@nps.gov
404-977-6622

National Park Service

James Riddick
Maintenance Mechanic Supervisor
National Park Service
Salt River Bay NHP & EP
2100 Church Street No. 100
Christiansted, St. Croix
US Virgin Islands, 00820
james_riddick@nps.gov
340-773-1460

National Park Service

Doug Denk
Project Manager
NPS Design & Construction Division
12795 W. Alameda Parkway
Lakewood, CO 80228
doug_denk@nps.gov
303-969-2336

REHABILITATE SALT RIVER CONTACT STATION

Directory of Professional Affiliates

Architect	Rick Bousquet, AIA, LEED AP Liollio Architecture, Inc. 147 Wappoo Creek Drive, Suite 400 Charleston, SC 29412 rick@liollio.com 843-762-2222
Civil Engineer	John Prorock, PE Stantec Consulting Services Inc. 4969 Centre Pointe Drive, Suite 200 North Charleston, SC 29418 john.prorock@stantec.com 843-740-7700
Landscape Architect	Kevin Vollnogle, PLA/ASLA Stantec Consulting Services Inc. 4969 Centre Pointe Drive, Suite 200 North Charleston, SC 29418 kevin.vollnogle@stantec.com 843-740-7700
Mechanical Engineer	Will Billard, PE DWG Consulting Engineers 1009 Anna Knapp Blvd., Suite 202 Mt. Pleasant, SC 29464 843-849-1141 wbillard@dwginc.com
Electrical Engineer	Zack Markell, PE DWG Consulting Engineers 1009 Anna Knapp Blvd., Suite 202 Mt. Pleasant, SC 29464 843-849-1141 zmarkell@dwginc.com
Plumbing & Fire Protection Engineer	Kenny Minogue DWG Consulting Engineers 1009 Anna Knapp Blvd., Suite 202 Mt. Pleasant, SC 29464 843-849-1141 kminogue@dwginc.com
Structural Engineer	Bill Ussery, PE 4SE Structural Engineers 7 Radcliffe St. Suite 301 Charleston, SC 29403 busser@4seinc.com 843-722-1992

REHABILITATE SALT RIVER CONTACT STATION

2.0 LOCATION OF PROJECT

The proposed rehabilitation of Salt River Contact Station is located on the northern coast of St. Croix, U.S. Virgin Islands within the Salt River Bay National Historic Park & Ecological Preserve. The site is located approximately 4.5 mi northwest of Christiansted. A summary of location and ownership details are provided below:

Location:	17°46'47.6"N, 64°45'41.4"W
Estate:	Salt River
Plots:	Plot No. 26, 27, 28, 34, 35, 36, and 37
Property ID:	201300013500 and 201300013100
Owner:	National Park Service, United States of America



Figure 1 - United States Virgin Islands Location Map

REHABILITATE SALT RIVER CONTACT STATION

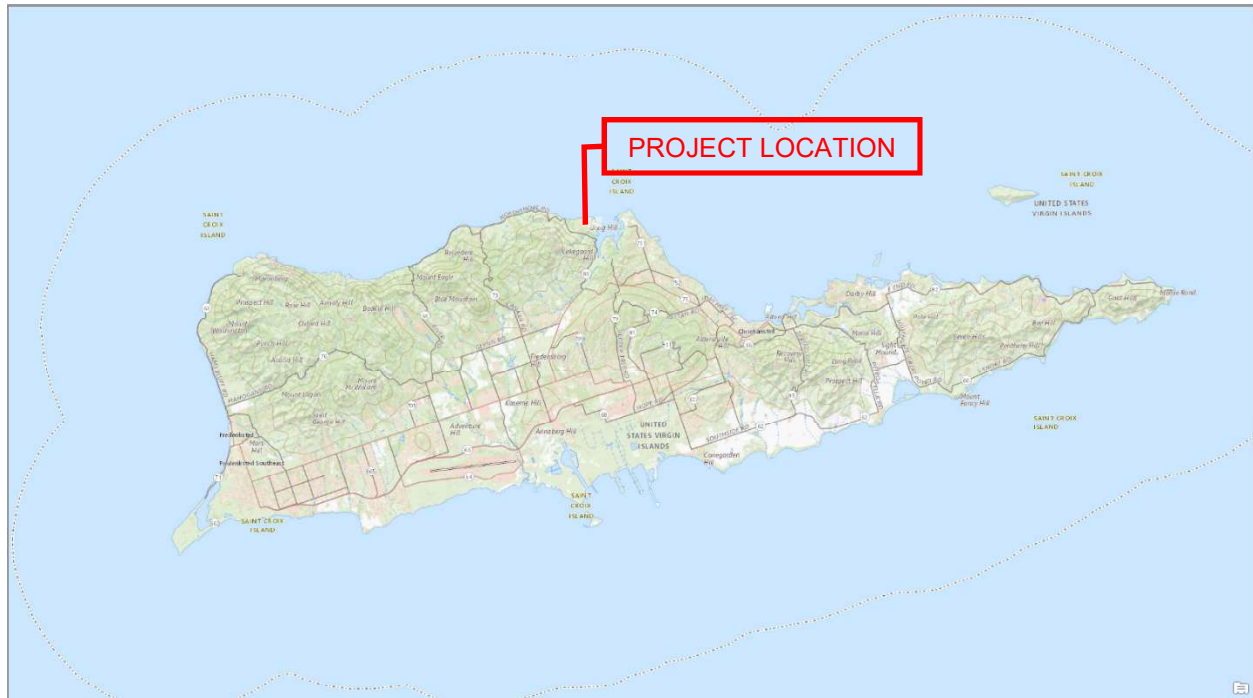


Figure 2 - St. Croix Location Map

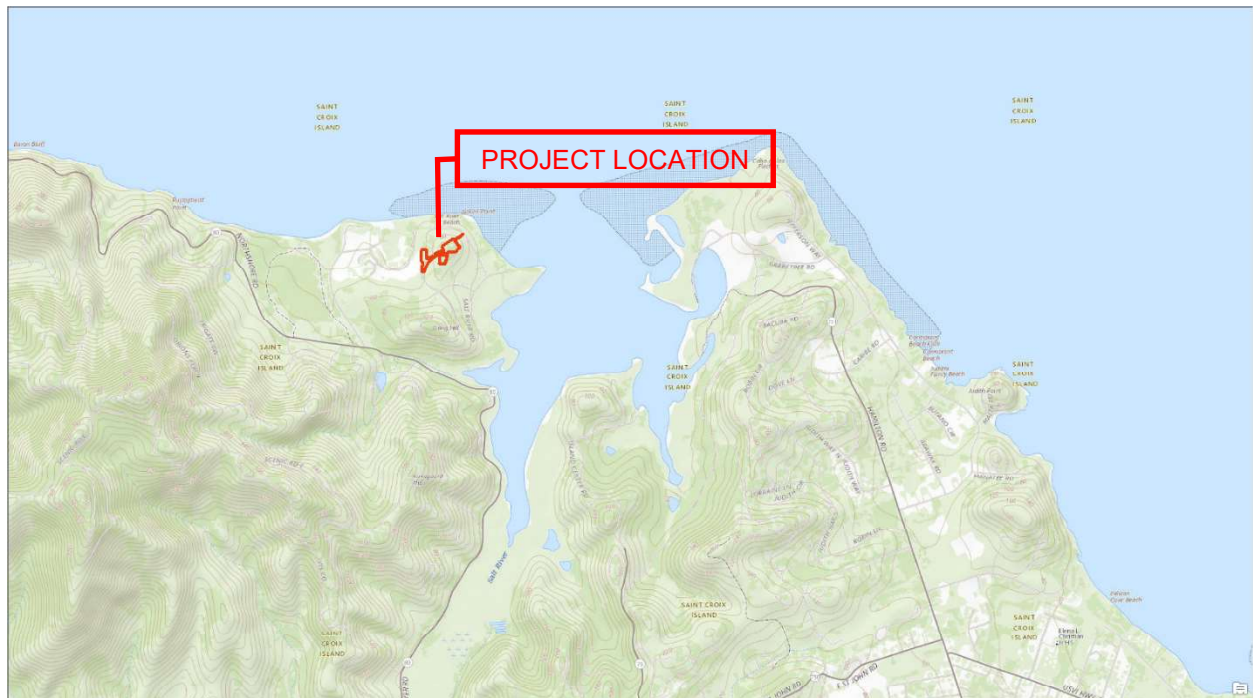


Figure 3 – Salt River Bay Vicinity Map

REHABILITATE SALT RIVER CONTACT STATION



Figure 4 – Salt River Bay Visitor Contact Station Aerial

REHABILITATE SALT RIVER CONTACT STATION

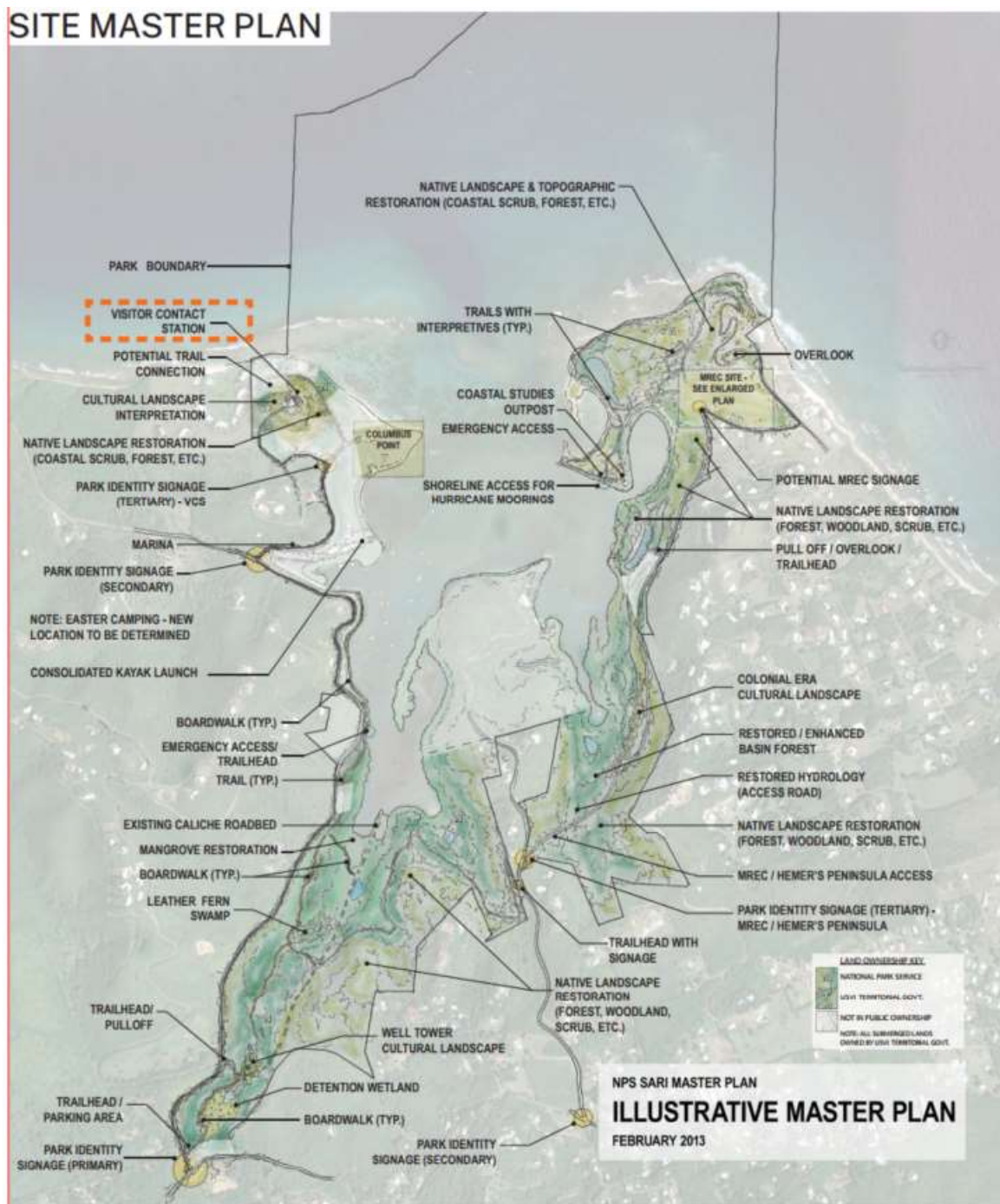


Figure 5 – NPS Salt River Bay Master Plan By Others (2013)

REHABILITATE SALT RIVER CONTACT STATION

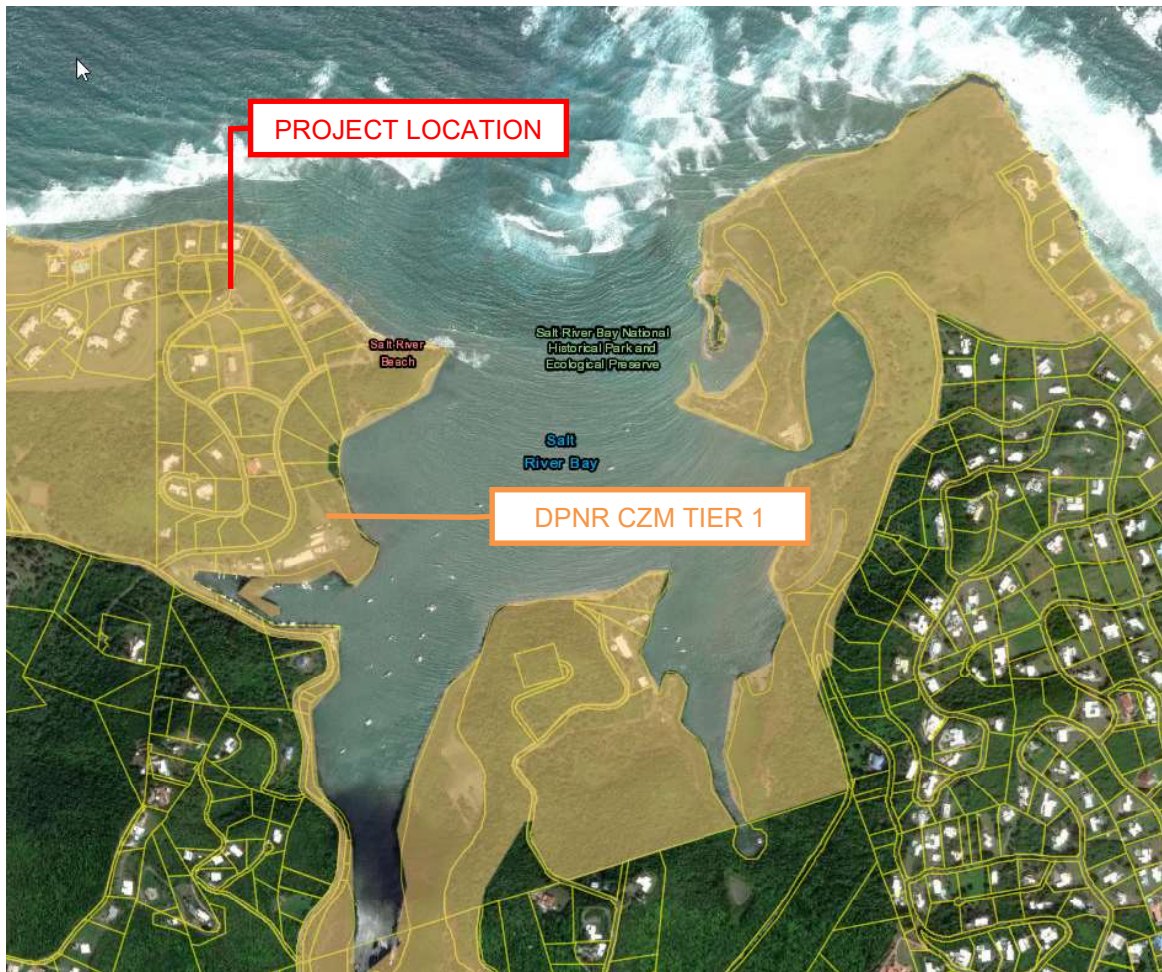


Figure 6 – DPNR CZM Tier 1 Zone

3.0 ABSTRACT

The existing Salt River Visitor Contact Station sits on a hill overlooking the entire Salt River estuary and the adjacent coastline and surrounding hills. The facility had been a private residence (the “Kumpitch House”) until the National Park Service acquired the property in 2001 and it was incorporated into the SARI administrative unit. The park had been operating the facility as a visitor contact station for several years until September of 2017 when hurricane Maria struck the island. The National Park Service is proposing to repair the existing spaces that were destroyed due to Hurricanes Irma and Maria.

The primary attraction and feature of the facility is the viewshed and observation point overlooking the entire park to include the site of Christopher Columbus’ landing in 1493, the Salt River Bay and the locations of former Amerindian village sites.

REHABILITATE SALT RIVER CONTACT STATION



Figure 7 – Salt River Bay Contact Station

Located directly on top of a hill (**ranging between 30 and 94 feet above sea level**), the main structure has several rooms, a kitchen, multiple bedrooms and bathrooms along with multiple exterior porches and balconies. The building is single-story with a partial walk-out basement (bedroom) below the main living room and a water cistern is also incorporated into the below-grade building structure. A separate observation tower/generator building is connected to the main residence via concrete retaining walls and patio structures. There is also one detached single-story “apartment” building which has additional living space and a storage garage. A pool which had been located in the courtyard has been filled in by the park. The structures have no historic significance.

The structures were substantially damaged by hurricane Maria in September, 2017. Approximately 80% of the roof shingles were lost in most areas resulting in significant water intrusion, and damage to the rafters occurred on approximately 50% of the structure. Multiple concrete block and rafter pockets were crushed. Damage to hurricane shutters and windows occurred and there was loss of doors. The entire roof was lifted and removed from the two story observation tower structure by the winds and made direct contact with the lower first floor roofing which punched several large holes in the roof structure. The predominant visually discernable structural damage appears to be associated with loss of roofing materials and damage to structural roof members, along with the complete loss of the observation tower roof.

In addition, many other elements of the building are in poor condition, including the mechanical, electrical and plumbing systems. The location of this facility is a popular and successful visitor destination and education center, and the loss of use of the existing facility has had a detrimental impact on the park’s ability to offer basic visitor contact services and provide interpretive features and educational programs.

REHABILITATE SALT RIVER CONTACT STATION

As a result, the National Park Service has a requirement to re-establish a Salt River Visitor Contact Station facility which utilizes the existing real property to the greatest extent possible in order to serve the park's visitor contact and educational outreach needs.

4.0 OBJECTIVES OF THE PROPOSED PROJECT

Since 2017, the Salt River Bay visitor contact station has been closed as a result of damage from 2 category 5 hurricanes, Irma and Maria. The goal of this rehabilitation project is to reopen the contact station to help the Park return to full operations. The National Park Service met this goal by meeting the following objectives:

- a. restore park operational needs
- b. ensure rehabilitation minimizes impacts to natural and cultural resources
- c. ensure rehabilitation minimizes the park's infrastructure footprint
- d. propose rehabilitation that is sensitive to the surrounding community, recognizing the stress on park neighbors following the storms, and limits further impact to their quality of life
- e. provide rehabilitation solutions that allow for smart investment in building infrastructure to maximize the life cycle of buildings
- f. propose rehabilitation designs that can meet current hurricane ratings and incorporate renewable energy/green technology, as feasibly as possible
- g. select rehabilitation components that can meet NPS accessibility, sustainability, and resiliency standards

The proposed project incorporates sustainable rehabilitation, resiliency against future storms, and efficiency in construction costs. The objective of the proposed project is to rehabilitate the visitor contact station so they can effectively and efficiently restore full park services as soon as possible.

5.0 DESCRIPTION OF PROJECT

The rehabilitation of the Salt River Visitor Contact Station will provide a more resilient, sustainable, and functional building to better serve the Park. Through a collaborative process, the design team has identified a series of strategic concepts to guide the design development. The existing structure is not historic, but it does sit within a historic landscape and it is surrounded by cultural and environmental resources that define the park's mission and the visitor's experience. The design of the proposed rehabilitation seeks to maximize the engagement of these resources directly and through interpretive elements while embracing the constraints of a rehabilitation project.

This project proposes the rehabilitation of an approximately **7,900 square foot** building as well as parking improvements, stormwater improvements, and sanitary sewer improvements – all of which will serve Contact Station. **No expansion to the existing foundation of the Contact Station is proposed and no additional building structures are proposed.**

The project area is comprised of several lots within the Salt River Estate - all of which are owned by the United States Government. Properties include:

1. **Salt River Estate, Plot No. 26, 27, 28, 34, 35, 36 (Property ID# 201300013100)**

REHABILITATE SALT RIVER CONTACT STATION

2. Salt River Estate, Plot No. 37 (Property ID# 201300013500)

Total combined property area is **6.9 acres** with only **2.5 acres** of proposed total disturbance area (this includes the footprint of the existing building which is approximately **7900 sq.ft.**).

The following are the proposed architectural modifications to the rehabilitation of the existing building.

1. Replace existing roof structure, decking and roofing material with new wood trusses with zero overhang and roof deck.
2. Open the east and south facades for visual access to the natural viewshed and historic venue of Salt River Bay, and creating open-air pavilions.
3. Improve hurricane resistance and reduce impact of structure to cultural landscape; ie, reducing roof profiles and height of building.
4. Modify fenestration to comply with IBC life safety codes and to maximize natural view sheds and historic view corridors of Salt River Bay.
5. Provide new mechanical/electrical/plumbing systems, new interior finishes (including the replacement of exiting floor tile with brushed concrete) and new plumbing fixtures meeting accessibility code.
6. Remove the existing tower completely.
7. No modifications to the lower level other than repairs to existing cistern.

Accessibility

There is currently no accessible parking on site. The proposed site design will provide accessible parking near the Contact Station and provide accessible routes to the main and secondary entrances.

Roadway

Limited site disturbance is desired for the project so existing circulation routes on site and parking areas will continue to be used. The existing 12-foot wide concrete driveway will be replaced in its current location. At the entrance, the roadway width will be expanded to 20 feet to increase safety of passing vehicles. A concrete driveway will also be installed from the main driveway to the lower terrace overflow parking area due to the steep grades. A new concrete vehicle turnout will be installed along the north side of the existing concrete driveway to allow passing near the midway point of the driveway.

Parking

An existing parking area is located on a grass terrace just south of the Contact Station. The grass terrace contains an existing permeable paver system that will remain. A wood post and guardrail system is proposed to be a visual and safety barrier for vehicles.

Wastewater

A new sewer service, septic tank, and mounded disposal leach field is proposed to serve the rehabilitated buildings. The proposed sewer service will tie the new restrooms at the top of the site to the new septic tank location located at the lower portion and towards the front of the site. This area closer to the front of the site was selected for the septic tank and leaching field due to the soil composition, milder slopes, and distance from the building.

The visitor contact station has been in operation as such for multiple years however the original house and associated additions to it were all completed prior to 1990. No apparent onsite sewage disposal area meeting current Department of Planning and Natural Resources (DPNR) could be located on the site and no maintenance to the existing septic or onsite sewage disposal area is known to have occurred. Due to this, the new onsite sewage disposal system is being proposed to meet current code and to also meet the

REHABILITATE SALT RIVER CONTACT STATION

current and future demands for the visitor contact station. The existing sewer for the building will be disconnected and septic tanks encountered are to be filled per DPNR regulations.

See section **5.1.10 Method of Wastewater Collection** for additional details.

5.1 SUMMARY OF PROPOSED ACTIVITY

5.1.1 Purpose of Project

In September 2017, two Category 5 hurricanes storms caused extensive damage to the Salt River Visitor Contact Station. The National Park Service has a requirement to re-establish a Salt River Visitor Contact Station facility which utilizes the existing real property to the greatest extent possible in order to serve the park's visitor contact and educational outreach needs. The site design and construction will provide a focal point to launch interpretive programs, educational school programs, volunteer events and serve as the main education and outreach facility connecting the Salt River east side Coastal Studies Outpost and future park trail system of the entire Salt River Bay National Historical Park and Ecological Preserve.

5.1.2 Presence and Location of Critical Areas

Several issues and impact topics were considered by the National Park Service, but ultimately were dismissed from further analysis, with the exception of the Agave plants.

Special Status Species

There are approximately nine existing protected Agave plants on the site within the project limits. The project proposes to relocate the Agave plants outside of the proposed limits of disturbance prior to construction and protected in place through the duration of construction.

Archeology

No cultural resources, including historic ruins or archeological remains, were identified during the pedestrian survey or subsurface testing; therefore, no cultural resource impacts are expected to result from actions in this plan.

Historic Structures

The existing structure (Kumpitch House / Contact Station) is not considered historic. No other historic structures existing within the project area.

The proposed project would alter no more than 2.5 acres of topsoil and near-surface soil substrates. However, much of the on-site soil has already been altered by past activities associated with building construction, road construction, and terracing, and no known unique or special soils would be expected to be lost due to the proposed construction activities. With the application of topsoil salvage and reuse, and other mitigation measures for soil erosion control, the proposed development should have a negligible effect on soils.

REHABILITATE SALT RIVER CONTACT STATION

5.1.3 Method of Construction

No major excavation is proposed. The proposed sanitary sewer septic system will require limited excavation for trenching of small underground pipe. Trenching shall be shallow to the existing grade and along existing roadway (see **Sheet C5.01 – Utility Plan.**)

Per the Geotechnical Report (see **Appendix A**), excavations through weathered rock, if necessary, may require the use of **hydraulic fracturing equipment**. A field seismic refraction test (ASTM D5777) is recommended in order to evaluate the proper equipment or method to be used to reach the desired excavation depth. Any existing abandoned underground utilities, substructures, foreign debris and/or other unsuitable material encountered during excavations shall be completely removed and replaced with new fill material. Any known active underground utilities within the project area shall be relocated. Groundwater is not expected to be of concern during excavations. However, if perched water is found, it should be managed by means of direct pumping. The excavations shall be maintained in a dry state. Runoff shall be diverted away from open excavations. Water stagnation shall be avoided as this may deteriorate the soil bearing capacity. The project contractor is responsible for providing safe excavation environment for working personnel in accordance to pertinent OSHA regulations at the time of construction.

Explosives are prohibited and shall not be used as a form of land clearing and earth change for this project.

5.1.4 Provisions to Limit Site Disturbance

Total combined property area is **6.9 acres** with only **2.5 acres** of proposed total disturbance area (this includes the footprint of the existing building which is approximately **7900 sq.ft.**). The proposed limits of disturbance is tightly constrained to the existing building and existing site features. The proposed location of the septic area is limited to the minimum area required to install the septic system.

Site limits of disturbance shall be clearly defined by silt fencing during construction (see **Sheet C2.03 – Erosion & Sediment Control Plan**).

5.1.5 Erosion and Sediment Control Devices

Before construction activity begins, erosion prevention BMPs shall be placed throughout the construction site to aid in the prevention of sediment-laden stormwater runoff. These BMPs shall be focused in areas with high potential of erosion, areas preceding infiltration practices, and shall be applied to all steep slopes. That is slopes equal to or greater than 3H:1V. See **Sheet C2.03 - Erosion & Sediment Control Plan** of the Construction Drawings for a 2 Phase Erosion Control Plan.

Each erosion prevention measure shall be selected on a site-specific basis and details have been provided on the construction site plans. The construction plans (see **Sheets C2.07 - Erosion Control Details**) identify all proposed Erosion Prevention BMPs and the recommended installation, maintenance, and inspection procedures.

REHABILITATE SALT RIVER CONTACT STATION

Examples of Erosion Prevention BMPs are, but are not limited to, **silt fencing, construction entrance, concrete washout, erosion control blankets, turf reinforcement mats, riprap, outlet protection, and dust control**. Information on the design and proper use of Erosion Prevention BMPs can be located in the Virgin Islands Environmental Protection Handbook, 2002

Additional details of the proposed Erosion Control BMPS are identified in Section 3 Erosion and Sediment Control BMPs of the C-SWPPP (see **Appendix B – CSWPPP**).

5.1.6 Schedule for Earth Change and Implementation of Erosion and Sediment Control Measures

The construction activities at this site will be implemented in 2 Erosion Prevention and Sediment Control Phases. The first phase includes the initial installation of perimeter controls, sediment control BMPs, and the construction entrance. The second phase includes the bulk of the construction activities and the implementation of internal storm water management BMPs. Following construction, all areas disturbed will be seeded or landscaped to achieve final stabilization.

See **Sheet C2.03 - Erosion & Sediment Control Plan - Erosion Control Plan** of the Construction Drawings for a 2 phase Erosion Control Plan.

5.1.7 Maintenance of Erosion and Sediment Control Measures

The stormwater maintenance schedule for each BMP will comply with one or more of the following laws, regulations, or codes:

- Environmental Protection Program; Virgin Islands Code Title 12, Chapter 13
- USVI Coastal Zone Management Program, Section 6217
- Virgin Islands Environmental Protection Handbook, 2002

Damaged or non-functioning measures shall be replaced or repaired immediately in accordance with the guidelines set forth in the Virgin Islands Environmental Protection Handbook, 2002.

All BMPs and other protective measures identified in the SWPPP must be maintained in effective operating condition. If site inspections are not operating effectively, maintenance must be performed within seven (7) calendar days, before the next inspection, or as reasonably possible, and before the next storm event whenever practicable to maintain the continued effectiveness of Stormwater controls. If periodic inspection or other information indicates that a BMP has been used inappropriately, or incorrectly, the Permittee must address the necessary replacement or modification required to correct the BMP within a time frame of 48 hours of identification.

If existing BMPS need to be modified or if additional BMPs are necessary to comply with the requirements of this permit, implementation must be completed before the next storm event whenever practicable. Sediment from sediment basins must be removed as indicated in the SWPPP or when the design capacity has been reduced by 50%, whichever occurs first. Sediment collected by Silt Fence, or another sediment control measure, must be removed when the deposited sediment reaches 1/3 of the height of

REHABILITATE SALT RIVER CONTACT STATION

the above-ground portion of these BMPs, or before it reaches a lower height based on the manufacturer's specifications.

Refer to the construction site plans sheets for BMP maintenance notes, and drainage facility maintenance notes and schedules.

5.1.8 Stormwater Management

Stormwater management on the site will be designed with Low Impact Development (LID) measures to closely match the pre-development conditions and in accordance with federal requirements, specifically EISA Section 438 guidance. Compliance with this guidance will be achieved by utilizing Option 1 which is to retain the stormwater runoff from the 95th percentile storm event through both infiltration and rainwater harvesting/re-use. The measures to be utilized include rainwater harvesting through existing cisterns, permeable pavers, reinforced grass paving, and flow through existing/proposed vegetated filter strips.

A small planted rain garden will be installed to treat and infiltrate a small portion of the roof runoff from the new office/law enforcement building. The rest of this roof runoff will be directed to the potable water cistern through the previously mentioned system.

Other impervious areas outside of the building and courtyard will be graded to drain to the proposed infiltration practices of permeable pavers and reinforced grass paving.

Stormwater runoff from the concrete driveways will be directed to roadside grassed ditches. Stone check dams will be installed in the ditch to lower the velocity of the stormwater to prevent erosion and ditch turnouts with stone outlet protection will also be provided to direct stormwater non-erosively to grassed filter areas.

There is an existing stormwater pipe at the bottom of the existing concrete driveway that was observed to be clogged with sediment. This pipe will be cleaned and utilized for drainage to match the existing drainage patterns around the driveway. Riprap inlet and outlet protection will also be installed at each end of the pipe to prevent future clogging of the pipe and to prevent erosion around the pipe ends.

On-site runoff from proposed impervious surfaces will be directed to stormwater BMPs (including **cisterns, and permeable pavers**) for water quality and quantity treatment. The design of the permeable pavement systems were based on Section 4.4 of the Virgin Islands Environmental Protection Handbook 2002, the EPA Storm Water Technology Fact Sheet Porous Pavement dated September 1999. This document heavily references the designs developed in the early 1990's by the Prince George's County, MD, Department of Environmental Resources (PGDER). Also referenced was the Low Impact Development in Coastal South Carolina: A Planning and Design Guide. Generally, the most stringent and conservative design requirements were utilized from the above design resources while providing the proposed permeable pavement design for the site.

The permeable paver areas are located at each inflow point to the system which will capture and trap sediment and other pollutants at the source of the inflow into the system from any adjacent impervious areas along with the paver areas themselves. The permeable pavers BMP also incorporates a gravel section which will provide sediment trapping and temporary storage of the stormwater runoff through the void spaces in the layer. Finally, stormwater runoff that passes through the pavers and gravel layer will infiltrate into the subgrade soils below.

Common particulates removed from stormwater include: Total Phosphorus, Metals, Total Kjeldahl Nitrogen (TKN), Total Suspended Solids, Organics, and Bacteria.

REHABILITATE SALT RIVER CONTACT STATION

See **Sheets C4.01 to C4.04 for Drainage Plan and Details** of the Construction Drawings for the proposed stormwater management system including recommended installation and maintenance.

See section below for additional details of the stormwater management system.

5.1.9 Maintenance of Stormwater Management

In general, all stormwater management systems will be checked after each significant rainfall. Inspections of the construction site shall be conducted at least once every seven (7) calendar days; and within 24 hours of the occurrence of a storm event of 0.25 inches or greater. Any necessary repairs or clean up to maintain the effectiveness shall be made immediately.

See **Sheets C4.01 to C4.04 for Drainage Plan and Details** of the Construction Drawings for the proposed stormwater management system including recommended installation and maintenance.

5.1.10 Method of Wastewater Collection and Disposal

There is an existing septic tank and leach field located adjacent to the existing building. A field investigation of the septic system occurred on November 2020. A thorough analysis weighing the considerations, challenges, and benefits of a new septic system vs re-using the existing septic system was presented to NPS. Overall, the system is believed to be over 40 years old, reaching the end of its expected lifespan.

Therefore, a new septic system will be implemented on site and will include, a 1,000-gallon concrete holding tank, and a mounded leach field consisting of trenches with perforated drain piping and stone. Based on preliminary geotechnical reporting, the mounded system will be required to provide better soil percolation and the mounded area will have an approximate footprint of 45' wide by 120' long. A 36" depth of imported sandy loam soils will be required for the leach field and the top footprint will be approximately 22' wide by 95' long. Two 85' long trenches will be required in the treatment area consisting of perforated distribution pipes buried in 2' wide sections. This system will be located at the lower end of the site to provide ease of access pending geotechnical analysis (see **Sheet C5.01 – Utility Plan.**)

The new wastewater septic system was designed per the Department of Planning & Natural Resources Proposed On site Sewage Disposal System Virgin Islands Coastal Management Rules and Regulations V.I.R. & REGS. Tit. 12, Chapter 21, Amendments to Sub chapter 902 and 910. Design flow calculations are based on 100 visitors per day to the park and the expected flows to the new septic system are expected to be approximately 280 gallons per day (see **Appendix E – Sewer Report**)

New underground sanitary sewer piping will be required to connect the new restroom locations within the visitor center to a receiving concrete manhole near the new septic system. This routing will be along the West side of the access driveway from the Visitor Center to the proposed septic system location located at the Southwest and lower portion of the site.

REHABILITATE SALT RIVER CONTACT STATION

A geotechnical report is provided based on geophysical testing that has been performed on site by Jaca & Sierra. Their testing included multiple borings for pavement design as well as percolation tests for infiltration rates (see **Appendix B – Geotechnical Report**)

5.2 SITE PLANS

See Construction Drawings included with this submittal. The submittal contains a highlighted sheet index of all drawings included with this submittal. Construction Drawings include full Civil and Landscape Architecture sheets.

Select Architectural sheets are included to show Floor Plans, Total Project Elevation Views, and Section Views of the proposed rehabilitation of the Contact Station. Select Structural drawings were included to show Foundations/Footings of each proposed building.

Additional sheets of the Construction Drawings are available upon request.

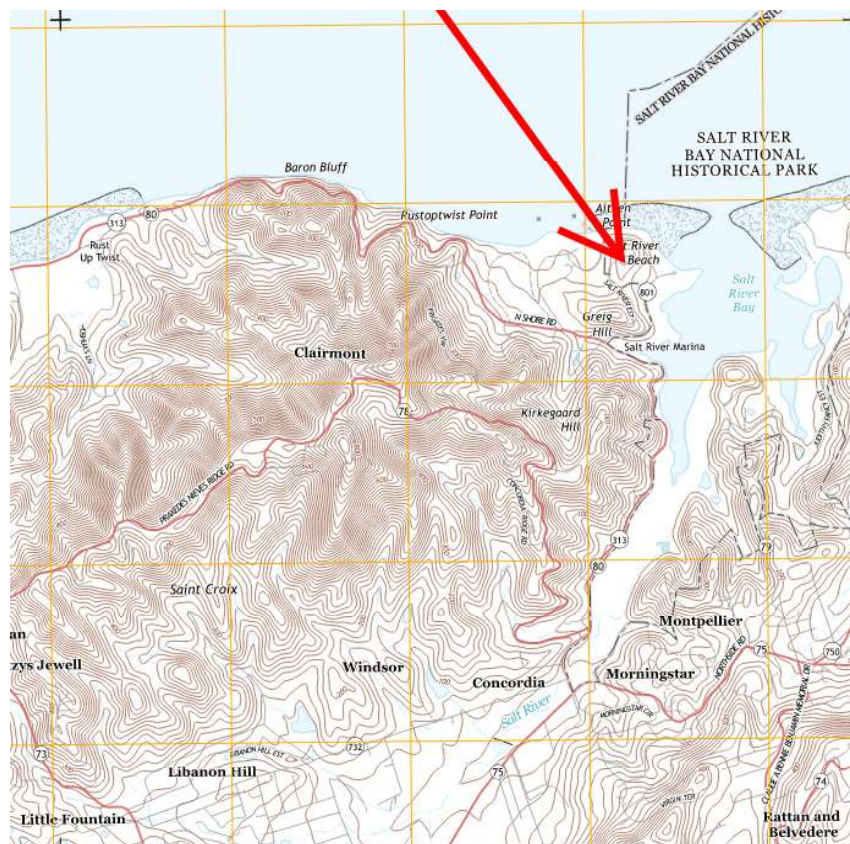


Figure 8 – Quad Map

REHABILITATE SALT RIVER CONTACT STATION

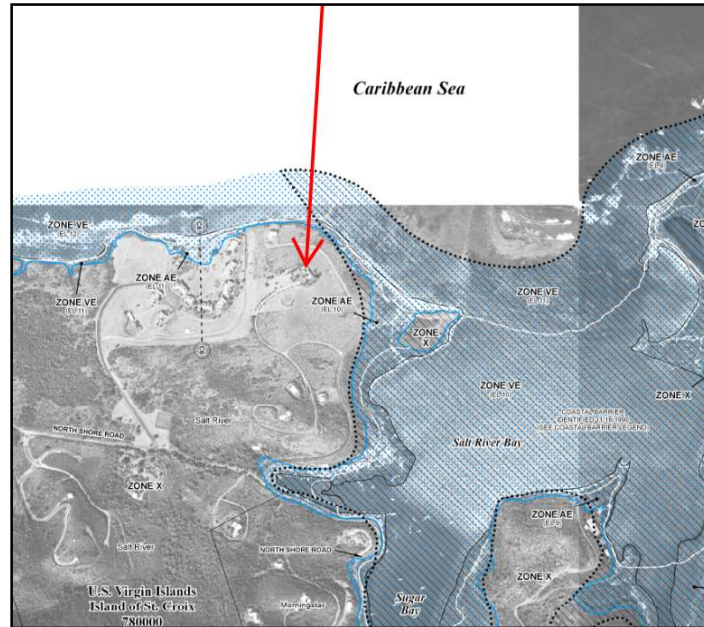


Figure 9 – FEMA Map



Figure 10 – Soil Survey Map